In the Claims

1.   (Currently Amended)   A computer-implemented method for inventory management, the method performed using a computer system comprising one or more processing units and one or more memory units, the method comprising:

using the computer system, determining a cumulative forecasted demand value for each of a plurality of future time windows within a future planning horizon, the cumulative forecasted demand value for a particular future time window representing a cumulative forecasted demand for at least one product over the particular future time window and all earlier future previous time windows in the future planning horizon;

using the computer system, determining a cumulative forecasted production value for each of the plurality of future time windows in the future planning horizon, the cumulative forecasted production value for a particular future time window representing a cumulative forecasted quantity of the product that can be manufactured over the particular future time window and all earlier future previous time windows in the future planning horizon;

using the computer system, determining a determining an estimated lean buffer stock value using the cumulative forecasted demand values and the cumulative forecasted production values for the plurality of future time windows in the future planning horizon, the estimated lean buffer stock value representing a quantity an estimated quantity of the product to use as a lean buffer stock for the future planning horizon; and

using the computer system, making the estimated lean buffer stock value available for use in determining a quantity of the product to manufacture to produce the lean buffer stock for the future planning horizon. manufacturing the product.

2.   (Currently Amended) The method of Claim 1, wherein determining the lean buffer stock value comprises:

determining a difference between the cumulative forecasted demand value and the cumulative forecasted production value for each future time window; and

selecting the largest positive difference among all the future time windows as the lean buffer stock value.

3.   (Currently Amended) The method of Claim 1, wherein:

a <u>forecasted</u> production quantity value represents ~~a quantity~~ <u>an estimated quantity</u> of the product to be manufactured during each <u>future</u> time window; and

the cumulative <u>forecasted</u> production value is determined by summing the <u>forecasted</u> production quantity values over all <u>future</u> time windows.

4.   (Currently Amended) The method of Claim 3, wherein the <u>forecasted</u> production quantity value is determined by dividing a total <u>forecasted</u> demand value representing total <u>forecasted</u> demand for the product over all <u>future</u> time windows by the number of <u>future</u> time windows.

5.   (Currently Amended) The method of Claim 1, wherein:

the <u>estimated</u> lean buffer stock value comprises a first <u>estimated</u> lean buffer stock value for a first <u>future</u> planning horizon; and

the method further comprises determining a second <u>estimated</u> lean buffer stock value for a second <u>future</u> planning horizon preceding the first <u>future</u> planning horizon using the first <u>estimated</u> lean buffer stock value for the first <u>future</u> planning horizon.

6.   (Currently Amended) The method of Claim 5, further comprising:

determining a first <u>forecasted</u> production quantity value for the first <u>future</u> planning horizon using a first total <u>forecasted</u> demand value that represents total <u>forecasted</u> demand for the product during the first <u>future</u> planning horizon; and

determining a second <u>forecasted</u> production quantity value for the second <u>future</u> planning horizon using the first <u>estimated</u> lean buffer stock value and a second total <u>forecasted</u> demand value that represents total <u>forecasted</u> demand for the product during the second <u>future</u> planning horizon, the second <u>forecasted</u> production quantity value being determined by summing the first <u>estimated</u> lean buffer stock value and the second total <u>forecasted</u> demand value.

7.   (Currently Amended) Software for inventory management, the software ~~being~~ embodied in at least one computer-readable medium and, <u>when executed on a computer system comprising one or more processing units and one or more memory units,</u> operable ~~when executed by a processor~~ to:

<u>using the computer system,</u> determine a cumulative <u>forecasted</u> demand value for each of a plurality of <u>future</u> time windows within a <u>future</u> planning horizon, the cumulative <u>forecasted</u> demand value for a <u>particular future</u> time window representing a cumulative <u>forecasted</u> demand for at least one product over the <u>particular future</u> time window and all ~~previous~~ <u>earlier future</u> time windows in the <u>future</u> planning horizon;

<u>using the computer system,</u> determine a cumulative <u>forecasted</u> production value for each <u>of the plurality of future</u> time window<u>s in the future planning horizon</u>, the cumulative <u>forecasted</u> production value for a <u>particular future</u> time window representing a cumulative <u>forecasted</u> quantity of the product that can be manufactured over the <u>particular future</u> time window and all ~~previous~~ <u>earlier future</u> time windows in the <u>future</u> planning horizon;

<u>using the computer system,</u> ~~determine a~~ <u>determine an estimated</u> lean buffer stock value using the cumulative <u>forecasted</u> demand values and the cumulative <u>forecasted</u> production values <u>for the plurality of future time windows in the future planning horizon</u>, the <u>estimated</u> lean buffer stock value representing ~~a quantity~~ <u>an estimated quantity</u> of the product to use as a lean buffer stock for the <u>future</u> planning horizon; and

<u>using the computer system,</u> make the <u>estimated</u> lean buffer stock value available for use in <u>determining a quantity of the product to manufacture to produce the lean buffer stock for the future planning horizon.</u> ~~manufacturing the product.~~

8.   (Currently Amended) The software of Claim 7, wherein the software is operable to determine the lean buffer stock value by:

determining a difference between the cumulative <u>forecasted</u> demand value and the cumulative <u>forecasted</u> production value for each <u>future</u> time window; and

selecting the largest positive difference among all the <u>future</u> time windows as the lean buffer stock value.

9.   (Currently Amended) The software of Claim 7, wherein:

a forecasted production quantity value represents a quantity an estimated quantity of the product to be manufactured during each future time window; and

the software is operable to determine the cumulative forecasted production value by summing the forecasted production quantity values over all future time windows.

10.   (Currently Amended) The software of Claim 9, wherein the software is further operable to determine:

the forecasted production quantity value by dividing a total forecasted demand value representing total forecasted demand for the product over all future time windows by the number of future time windows.

11.   (Currently Amended) The software of Claim 7, wherein:

the estimated lean buffer stock value comprises a first estimated lean buffer stock value for a first future planning horizon; and

the software is further operable to determine a second estimated lean buffer stock value for a second future planning horizon preceding the first future planning horizon using the first estimated lean buffer stock value for the first future planning horizon.

12.   (Currently Amended) The software of Claim 11, wherein the software is further operable to:

determine a first forecasted production quantity value for the first future planning horizon using a first total forecasted demand value that represents total forecasted demand for the product during the first future planning horizon; and

determine a second forecasted production quantity value for the second planning horizon using the first estimated lean buffer stock value and a second total forecasted demand value that represents total forecasted demand for the product during the second future planning horizon, the second forecasted production quantity value being determined by summing the first estimated lean buffer stock value and the second total forecasted demand value.

13.   (Currently Amended)   A computer-implemented system for inventory management, comprising:

computer memory containing:

a cumulative forecasted demand value for each of a plurality of future time windows within a future planning horizon, the cumulative forecasted demand value for a particular future time window representing a cumulative forecasted demand for at least one product over the particular future time window and all ~~previous~~ earlier future time windows in the future planning horizon; and

a cumulative forecasted production value for each of the plurality of future time windows in the future planning horizon, the cumulative forecasted production value for a particular future time window representing a cumulative forecasted quantity of the product that can be manufactured over the particular future time window and all ~~previous~~ earlier future time windows in the future planning horizon; and

one or more computer processors collectively operable to:

~~determine a~~ determine an estimated lean buffer stock value using the cumulative forecasted demand values and the cumulative forecasted production values for the plurality of future time windows in the future planning horizon, the estimated lean buffer stock value representing ~~a quantity~~ an estimated quantity of the product to use as a lean buffer stock for the future planning horizon; and

make the estimated lean buffer stock value available for use in determining a quantity of the product to manufacture to produce the lean buffer stock for the future planning horizon. ~~manufacturing the product.~~

14.   (Currently Amended)   The system of Claim 13, wherein the processor is operable to determine the lean buffer stock value by:

determining a difference between the cumulative forecasted demand value and the cumulative forecasted production value for each future time window; and

selecting the largest positive difference among all the future time windows as the estimated lean buffer stock value.

15.   (Currently Amended) The system of Claim 13, wherein:

a <u>forecasted</u> production quantity value represents a quantity <u>an estimated quantity</u> of the product to be manufactured during each <u>future</u> time window; and

the processor is operable to determine the cumulative <u>forecasted</u> production value by summing the <u>forecasted</u> production quantity values over all <u>future</u> time windows.

16.   (Currently Amended) The system of Claim 15, wherein the processor is further operable to determine the <u>forecasted</u> production quantity value by dividing a total <u>forecasted</u> demand value representing total <u>forecasted</u> demand for the product over all <u>future</u> time windows by the number of <u>future</u> time windows.

17.   (Currently Amended) The system of Claim 13, wherein:

the <u>estimated</u> lean buffer stock value comprises a first <u>estimated</u> lean buffer stock value for a first <u>future</u> planning horizon; and

the processor is further operable to determine a second <u>estimated</u> lean buffer stock value for a second <u>future</u> planning horizon preceding the first <u>future</u> planning horizon using the first <u>estimated</u> lean buffer stock value for the first <u>future</u> planning horizon.

18.   (Currently Amended) The system of Claim 17, wherein the processor is further operable to:

determine a first <u>forecasted</u> production quantity value for the first <u>future</u> planning horizon using a first total <u>forecasted</u> demand value that represents total <u>forecasted</u> demand for the product during the first <u>future</u> planning horizon; and

determine a second <u>forecasted</u> production quantity value for the second <u>future</u> planning horizon using the first <u>estimated</u> lean buffer stock value and a second total <u>forecasted</u> demand value that represents total <u>forecasted</u> demand for the product during the second <u>future</u> planning horizon, the second <u>forecasted</u> production quantity value being determined by summing the first <u>estimated</u> lean buffer stock value and the second total <u>forecasted</u> demand value.

19.   (Currently Amended)   A computer-implemented method for inventory management, the method performed using a computer system comprising one or more processing units and one or more memory units, the method comprising:

using the computer system, determining a cumulative demand value for each of a plurality of time windows within a first planning horizon, the cumulative demand value for a time window representing a cumulative demand for at least one product over the time window and all previous time windows in the first planning horizon;

using the computer system, determining a first forecasted production quantity value for the first planning horizon using a first total forecasted demand value that represents total demand for the product during the first planning horizon, the first forecasted production quantity value representing a quantity an estimated quantity of the product to be manufactured during each time window of the first planning horizon;

using the computer system, determining a cumulative production value for each time window of the first planning horizon using the first forecasted production quantity value, the cumulative production value for a time window representing a cumulative quantity of the product that can be manufactured over the time window and all previous time windows in the first planning horizon;

using the computer system, determining a first lean buffer stock value using the cumulative demand values and the cumulative production values for the first planning horizon, the first lean buffer stock value representing a quantity of the product to use as a lean buffer stock for the first planning horizon;

using the computer system, determining a cumulative demand value for each of a plurality of time windows within a second planning horizon preceding the first planning horizon;

using the computer system, determining a second forecasted production quantity value for the second planning horizon using the first lean buffer stock value and a second total forecasted demand value that represents total demand for the product during the second planning horizon;

using the computer system, determining a cumulative production value for each time window of the second planning horizon using the second forecasted production quantity value;

using the computer system, determining a second lean buffer stock value using the cumulative demand values and the cumulative production values for the second planning horizon, the second lean buffer stock value representing a quantity of the product to use as a lean buffer stock for the second planning horizon; and

using the computer system, making the first and second lean buffer stock values available for use in manufacturing the product.

20. (Currently Amended) Software for inventory management, the software ~~being~~ embodied in at least one computer-readable medium and, when executed on a computer system comprising one or more processing units and one or more memory units, operable ~~when executed by a processor~~ to:

using the computer system, determine a cumulative demand value for each of a plurality of time windows within a first planning horizon, the cumulative demand value for a time window representing a cumulative demand for at least one product over the time window and all previous time windows in the first planning horizon;

using the computer system, determine a first forecasted production quantity value for the first planning horizon using a first total forecasted demand value that represents total demand for the product during the first planning horizon, the first forecasted production quantity value representing ~~a quantity~~ an estimated quantity of the product to be manufactured during each time window of the first planning horizon;

using the computer system, determine a cumulative production value for each time window of the first planning horizon using the first forecasted production quantity value, the cumulative production value for a time window representing a cumulative quantity of the product that can be manufactured over the time window and all previous time windows in the first planning horizon;

using the computer system, determine a first lean buffer stock value using the cumulative demand values and the cumulative production values for the first planning horizon, the first lean buffer stock value representing a quantity of the product to use as a lean buffer stock for the first planning horizon;

using the computer system, determine a cumulative demand value for each of a plurality of time windows within a second planning horizon preceding the first planning horizon;

using the computer system, determine a second forecasted production quantity value for the second planning horizon using the first lean buffer stock value and a second total forecasted demand value that represents total demand for the product during the second planning horizon;

using the computer system, determine a cumulative production value for each time window of the second planning horizon using the second forecasted production quantity value;

using the computer system, determine a second lean buffer stock value using the cumulative demand values and the cumulative production values for the second planning horizon, the second lean buffer stock value representing a quantity of the product to use as a lean buffer stock for the second planning horizon; and

using the computer system, make the first and second lean buffer stock values available for use in manufacturing the product.

21.   (Currently Amended)   A <u>computer-implemented</u> system for inventory management, comprising:

<u>computer</u> memory containing:

a cumulative demand value for each of a plurality of time windows within a first planning horizon, the cumulative demand value for a time window representing a cumulative demand for at least one product over the time window and all previous time windows in the first planning horizon; and

a cumulative demand value for each of a plurality of time windows within a second planning horizon preceding the first planning horizon; and

one or more <u>computer</u> processors collectively operable to:

determine a first <u>forecasted</u> production quantity value for the first planning horizon using a first total <u>forecasted</u> demand value that represents total demand for the product during the first planning horizon, the first <u>forecasted</u> production quantity value representing a quantity <u>an estimated quantity</u> of the product to be manufactured during each time window of the first planning horizon;

determine a cumulative production value for each time window of the first planning horizon using the first <u>forecasted</u> production quantity value, the cumulative production value for a time window representing a cumulative quantity of the product that can be manufactured over the time window and all previous time windows in the first planning horizon;

determine a first lean buffer stock value using the cumulative demand values and the cumulative production values for the first planning horizon, the first lean buffer stock value representing a quantity of the product to use as a lean buffer stock for the first planning horizon;

determine a second <u>forecasted</u> production quantity value for the second planning horizon using the first lean buffer stock value and a second total <u>forecasted</u> demand value that represents total demand for the product during the second planning horizon;

determine a cumulative production value for each time window of the second planning horizon using the second <u>forecasted</u> production quantity value;

determine a second lean buffer stock value using the cumulative demand values and the cumulative production values for the second planning horizon, the second lean

buffer stock value representing a quantity of the product to use as a lean buffer stock for the second planning horizon; and

make the first and second lean buffer stock values available for use in manufacturing the product.

22.   (New) The method of Claim 1, further comprising making the estimated lean buffer stock value available for use in determining an estimated quantity of the product to manufacture during an earlier future planning horizon in order to produce the lean buffer stock for the future planning horizon.

23.   (New) The software of Claim 7, further comprising using the computer system, make the estimated lean buffer stock value available for use in determining an estimated quantity of the product to manufacture during an earlier future planning horizon in order to produce the lean buffer stock for the future planning horizon.

24.   (New) The system of Claim 13, wherein the one or more computer processors are further operable to make the estimated lean buffer stock value available for use in determining an estimated quantity of the product to manufacture during an earlier future planning horizon in order to produce the lean buffer stock for the future planning horizon.